THE UNIVERSITY OF ALBERTA

COUNTRY LIVESTOCK AUCTION MARKETS AND THE STRUCTURE, CONDUCT, AND PERFORMANCE OF THE ALBERTA LIVESTOCK AND LIVESTOCK EXCHANGE SERVICES MARKETS

by

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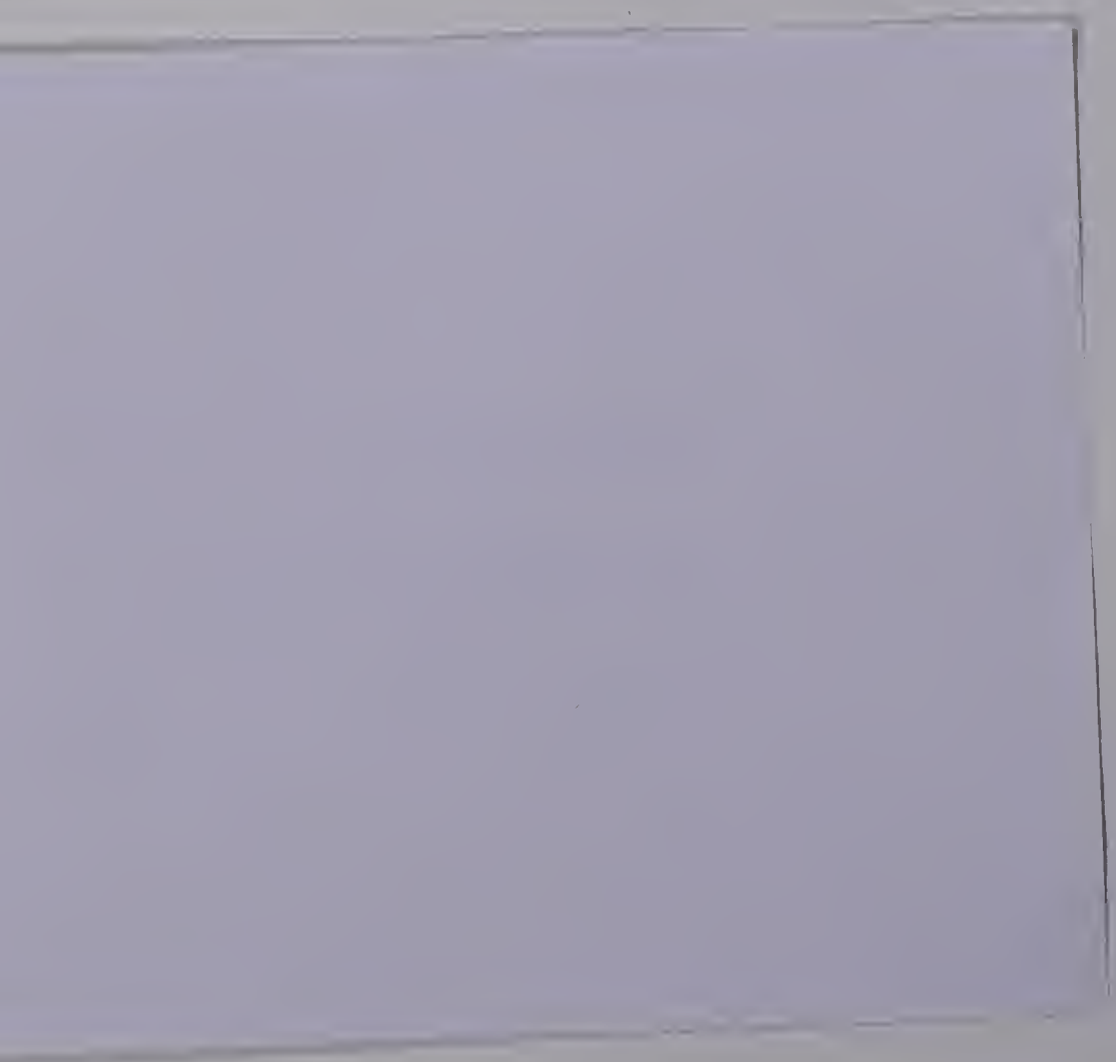

ABSTRACT

Country livestock auction markets have come to play an important role in the livestock market and the livestock exchange services markets in Alberta in the last twenty years. Their numbers have increased, and their handlings of animals have increased too. Auction markets have increased in importance during a period when all-weather roads and a greater number of farm trucks are being used more and more in the transportation of livestock. The auction method of selling has become widely accepted.

In this thesis the livestock exchange service markets are defined; country auction and terminal markets are compared and contrasted. The chapter, "Analytical Framework," includes a review of literature on the characteristics of and criteria for market organization. A theoretical analysis of the decentralized livestock market and the price-registering markets provides a framework for the later analysis of the market performance implications of country livestock auctions.

A review of empirical studies of marketing practices serves to indicate that auction markets are differentiated in many ways but that their monopoly power, which is derived mainly from locational advantages in a local area, is not great.

The analysis of the research is divided into chapters on the structure characteristics of the exchange service and livestock markets and the market conduct characteristics of Alberta auction markets. Some comparisons are made between large and small markets.

It is concluded that the entry of new firms into the auction market subgroup is as free as the nature of the industry permits and is restricted by such natural factors as the limited production of livestock and the proximity of other auction markets. A section on market information concludes with the observation that, as long as the exchange activities at auction markets are not reported systematically and fully, the Alberta livestock market will not be characterized by a satisfactory state of all malleable dimensions.

ACKNOWLEDGEMENTS

I am indebted to many persons for assistance given in the course of doing the research reported here and in the preparation of this manuscript. Plaudits for technical assistance go to C. Ellis, M. Hawkins, V. Yanda, L. Savage, B. Fletcher, R. Taube, and M. Richeson. R. English and W. Mead made useful observations of a general nature. Auction market operators provided information and data. There can be no doubt, however, that the chief debt is owed to T. W. Manning who directed the research and kept prodding me to complete this thesis.

I beg forgiveness, if forgiveness need be sought, for two final comments. My first year as a graduate student in the Department of Agricultural Economics will stand, I now believe, unrivalled for its production of dazzling new insights. The completion of this thesis has caused me to reflect on my considerable good fortune over a wide span of time in having parents, brothers, teachers, professors, students, and friends who encouraged me along the path. Where the path leads is not altogether clear, but the diversions along the way are marvelous.

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CHAPTER I

INTRODUCTION

Many important developments have occurred in all phases of the livestock industry in Canada over the last several decades. There have been changes in production, marketing, processing, and retailing. The most significant changes in the past thirty years have been:[1]

(1) The development of a network of all-weather roads with movement from farms to provincial market centers almost entirely by trucks.
(2) The expansion in cattle production and in finishing.
(3) The improvement in refrigeration enabling meats to be moved long distances without deterioration.
(4) The dominance of chain stores and supermarkets in the purchase and distribution of meats.
(5) The establishment of numbers of provincial auction markets.
(6) The gradual but noticeable increase in packer 'direct' procurement of livestock.
(7) The establishment of a marketing board for hogs in Ontario and the recent development of "commission" selling in St. Boniface, the latter sponsored by the Government of Manitoba.

The procurement policies and practices of livestock buyers and agents have been modified as auction markets have grown in size and increased in numbers. The direction and magnitude of movements of feeder and slaughter cattle through all the various marketing channels have undergone corresponding changes. There have been associated changes in

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[1]G. Winkelaar, Report of General Manager, Alberta Livestock Cooperative Annual Meeting (Edmonton, July 1965), (sentence placement changed).

the competitive structure of the markets for livestock and for livestock exchange services. The formation and communication of livestock prices through the stages and areas of the marketing system has become a topic given much attention.

Purpose of the Study

The purpose of the study reported here is to analyse the development of country auction markets in Alberta. Auction markets deserve attention because there has been a rapid increase in their numbers since 1948 just as cattle production and finishing have expanded, the network of good roads has appeared, and as packing plants have come to rely more and more on direct procurement of livestock. The numbers of livestock handled by auction markets has also risen rapidly. The thesis will develop the necessary analytical framework and then set down and interpret summaries of the information and data obtained in the course of the study. The analysis will be organized around the market structure, conduct, and performance implications of the study. An important distinction will be drawn between the market for livestock and the market for exchange services.

Hypotheses and Objectives

The market structure hypothesis is that auction markets have become important structural elements in the livestock and exchange service markets. Therefore, an objective will be to provide evidence for that hypothesis. The major evidence will be the number of auction markets and the number of handlings over time.

The conduct hypothesis is that auction markets have affected the conduct of both buyers and sellers of livestock and the conduct of

other firms providing exchange services. A major change in conduct attributable to the rise of auction markets has been the widespread adoption of auction selling of livestock. The importance of auction markets in popularizing auction selling will be documented. Other changes in conduct can be inferred from the observation of changes in structure. The conduct policies of individual auction markets will be analyzed in relation to characteristics of and criteria for conduct found in the literature of market organization.

Market performance is the most important concern. The hypothesis is that the changes in structure and conduct have improved the performance of the livestock marketing system. Auction markets have improved performance mainly by providing local markets that permit the economies of geographic advantage to be expressed by savings of "backhaul" charges. Many auction markets are also important in interprovincial trade. The existence of auction markets has contributed to better communication of prices; a suggestion will be offered for improving market information services.

Sources of Information

The auction market operators provided most of the information in the course of personal interviews. The writer had intended to visit all auction markets, but information was not obtained from several markets. A 20 percent random sample of 1962 transactions was drawn for each market. The data were transcribed draft by draft from the original documents. Each draft had five kinds of characteristics: the class, weight, sex, and value of animals, the buyer, the seller, the province of origin, and the province of destination. The large number of classes of animals chosen at the outset were later telescoped into categories

that would permit comparisons with published sources of data. The operator's familiarity with buyers' and sellers' activities was relied upon in applying definitions. The operators were in nearly all cases standing nearby to facilitate correct transcribing of the data. Since the sellers and buyers themselves were not interviewed, it was not possible to apply definitions with absolute reliability. There is some possibility that a single buyer could be both a feeder and a dealer. Inaccurate estimates, to the extent they may exist, would be overestimates of beef cattle, farmers as buyers and sellers, and Alberta as source and destination.

The respondents were neither a sample, in a strict sense, nor were they the entire population of Alberta auction markets. It will be assumed throughout this thesis that the inferences drawn for the markets surveyed apply also to the other markets since the markets surveyed spanned the entire market size spectrum and represented all areas of the province.

CHAPTER II

ANALYTICAL FRAMEWORK

Definition of Country Livestock Auction Market

A country livestock auction market is one of seven classes of 'stockyards'. It is an area of land with buildings, pens, fences, gates, chutes, weigh scales, and other equipment and is used as a public market for purchase and sale of livestock. In particular an auction market (of the kind reported in this thesis) is a stockyard where during the preceding twelve months 1,200 or more of all classes of livestock, except poultry, have been received from producers or dealers and sold by auction for a commission fee or a set fee per head. An auction market is licensed as a "D" stockyard under regulations pursuant to the Alberta Livestock and Livestock Products Act.[1]

The physical characteristics are not, however, the most important part of the definition. The essential fact is that auction markets are sellers of services for the exchanging of livestock. The distinctive characteristics of auction markets as sellers of exchange services can be seen most readily by comparing auction markets with terminal markets.

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[1]Alberta Livestock and Livestock Products Act, Revised Statutes of Alberta, 1955.

Characteristics of terminal markets

Terminal markets have been described by Duddy and Rezvan as consisting of the following features, functions, and agencies.[1] The features are:

(1) Transportation and switching.
(2) Unloading platforms.
(3) Chutes, housing sheds, open-air pens, scale houses, storage for feed, machinery, and office space.
(4) Meat packing and by-product plants nearby.
(5) The trading personnel represented by commission firms, traders, and various types of buyers, the livestock exchange, the bank, livestock journals, and price reporting services.
(6) The government promotes trade by providing an impartial market news and price reporting service, and by imposing regulations respecting sanitation and fair trade practices.

Those same authors enumerate the functions of the terminal livestock market:

(1) Provides a point of concentration.
(2) Provides physical facilities which are divorced from any interest or ownership in the livestock.
(3) Concentrates buying power.
(4) Provides skilled trading personnel.
(5) Operates under the rules of an exchange.
(6) Supplies market news.
(7) Provides banking and credit service.
(8) Inspection and sanitary control.
(9) Regulation of trade practices.
(10) Promotion.

These features and functions are integrated in the activities of agencies which perform the marketing services: railroad companies, stockyard companies, commission firms, dealers and traders, packer-buyers, market news reporters, and government veterinary inspectors.

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[1]E. A. Duddy and D. R. Rezvan, The Changing Relative Importance of the Central Livestock Market (Chicago: University of Chicago Press, 1938).

Characteristics of auction markets

Since auction markets and terminal markets are both sellers of exchange services, the service provided by each are, quite naturally, rather similar. The procedures and facilities are somewhat different. Alberta auction markets may be described as follows: (1) Switching services are not usually found at auction markets. Many auction markets are not serviced by rail spurs, because they were built after the shift to truck transportation. Railroads are used primarily for moving cattle east. (2) Chutes, pens, etc. are provided. (3) Meat packing and by-product plants are not found adjacent to auction markets and are not usually located in the same urban center. In general, auction markets are, therefore, not likely to be important as price registers in the marketing of slaughter livestock. (4) The auction market firm provides the physical facilities and the handling and selling services. The principal-agent relationship of the farmer and commission firm at the central market does not have its counterpart at auction markets. The commission firms which sell cattle and make payments to farmers may lease nearly all their space and facilities. The firm which makes payment at auction markets also owns the facilities. (It may let contracts for the actual accounting, handling, or selling, but its financial responsibility is not affected by so doing.) With all the functions at an auction market performed by the single agency, there is a virtual exchange, and the shippers' trust account may not be essential. (5) The functions of dealers and traders may also be performed in part by owners or operators of the auction market in addition to other dealers, all of whom must be licensed and bonded under provincial regulations. The scope of functions performed by an auction market firm

might make its impartiality and integrity suspect and diminish, thereby, the prospects that such an auction market will become a price-register for non-slaughter animals. (6) Auction markets sell only irregularly or once or twice a week and have no authentic independent market reporting service. These deficiencies, especially the reporting service, may well be the chief obstacles preventing auction markets from assuming much greater importance. (7) Provincial (not federal) regulations govern the construction, maintenance, and operation of auction markets.

Market Organization: Characteristics and Criteria

In an excellent summary article Sosnick has provided a critique of workable competition:[1]

> The theory of workable competition is best understood as an attempt to indicate what practically attainable states of affairs are socially desirable in individual capitalistic markets. In its development, the 1930's are sort of benchmark. Since then, two points have received more general emphasis. One is that perfect competition is not a reliable basis for normative appraisal of actual markets. The other is that it is necessary to formulate explicitly a criterion of workable competition; that is a criterion whose greater fulfillment implies a socially better situation and whose complete fulfillment is what the public interest demands.

Three normative categories may be noted--performance, conduct, and structure. Performance is the category of ultimate importance. The other two categories are sometimes, but quite mistakenly, treated as if certain knowledge about them generated a powerful presumption about performance. Sosnick wrote that: "Performance norms summarize the

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[1] S. H. Sosnick, "A Critique of Concepts of Workable Competition," Quarterly Journal of Economics, 77 (August 1958), 380-423.

relevant 'economic' and 'political' values. These cannot be by-passed by including only structure or conduct norms . . . the workability criterion should demand a satisfactory state of all malleable dimensions."[1] Sosnick defines structure to include the characteristics which constitute a market's pattern, status, and composition. Conduct refers to characteristics which are an enterprise's actions, dealings, or tactics. Performance refers to dimensions which represent the realization of normatively significant economic results. Conduct and performance together are sometimes called behavior. Sosnick has catalogued dimension (criteria) norms for structure, conduct, and performance.[2] Sosnick's structure norms are

(1) A large or an appreciable number of traders . . .
(2) Price sensitive quality differentials.
(3) No artifical handicaps on mobility.
(4) Adequate access to information.
(5) Some uncertainty whether a price reduction will be met.
(6) Absence of legal restrictions.
(7) Continual opening of fresh areas and types of competitive contact.

Sosnick's conduct norms are

(1) Firms should strive in rivalry, pursuing their independent judgement.
(2) Firms should not shield permanently inefficient rivals, suppliers, or customers.
(3) There should be no unfair, exclusionary, predatory, or coercive tactics.
(4) Some forms of discrimination should or should not occur.
(5) Sales promotion should not be misleading.
(6) Buyers should react fairly rapidly to differential offerings.

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[1]Sosnick, p. 381.

[2]Sosnick, p. 391.

Sosnick's performance norms are

(1) Operations should be efficient.
(2) Promotions expense should not be excessive.
(3) Profits should be at levels which reward investment and efficiency and induce innovation.
(4) Output should be consistent with a good allocation of resources.
(5) Price should conform to consumers' interests.
(6) Opportunities for better products and techniques should not be neglected.
(7) Conservation should not be disregarded.
(8) Success should accrue to sellers who give buyers more of what they want.
(9) Entry should be as free as the nature of the industry permits.
(10) The industry should aid in national defence.
(11) Excessive political and economic power should not rest in the hands of small groups.
(12) Employees' welfare should not be neglected.

Caves' characteristics and criteria

Caves defines market structure as the economically significant features of a market which affect behavior of the firms in the industry.[1] He lists the main elements of market structure in order of importance as:

(1) Concentration.
(2) Product differentiation.
(3) Barriers to the entry of new firms.
(4) Growth rate of market demand.
(5) Price elasticity of demand.
(6) Ratio of fixed to variable costs in the short run.

Caves holds that market structure is important because it determines the behavior of firms in the industry and that behavior in turn determines the quality of the industry's performance. He defines market conduct as consisting of a firm's policies toward its product market and toward the moves made by its rivals in that market. Market conduct is then divided into three major areas of business policy.

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[1]R. B. Caves, American Industry: Structure Conduct and Performance (Homewood, Illinois: Richard D. Irwin, 1965).

(1) Policies toward setting prices.
(2) Policies toward setting the quality of the product.
(3) Policies aimed at coercing rivals.

Caves asserts that there is general agreement that four economic goals, or performance traits, are of special importance.

(1) An economy should be efficient in employing scarce factors.
(2) An economy should be fully employed so as to prevent waste and personal hardship, but not at the price of unreasonable inflation.
(3) An economy must be progressive in raising the quality and variety of goods and improving techniques of production.
(4) An economy should be equitable by providing for basic needs and reasonable expectations and rewarding productive efforts.

A judgment on performance must compare actual with potential performance. Caves concludes: "Our evidence would seem to indicate that the market-power test (concentration) would most likely improve economic performance."[1]

Implications of proposed characteristics and criteria

It is clear that there is not a consensus about structure, conduct, and performance characteristics and criteria: Sosnick stresses performance; Caves concludes that the concentration (structure) test is the best criterion for performance. It is not an easy matter to find an empirical magnitude corresponding to each characteristic and criterion, even if there were agreement on the characteristics and criteria to be used. An objection of a more fundamental nature is that all these criteria very largely assume that the price discovery mechanism and the communication of information are efficient and reflect the forces of supply and demand reliably. The criteria relate most directly to

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[1]Caves, p. 111.

questions of distribution of market power along the marketing chain from farmer to feeder, packer, wholesaler, and retailer. Their relationship to price discovery for live animals is less direct. It is shown in Chapter III on the competitive model that there are many alternatives to any one auction market and that competitive conditions with a minimum of service differentiation do exist in the market for exchange services. The basic question in livestock marketing, as seen by Ashby, is not one of the distribution of market power along the market chain but is instead the question of whether the organization of the decentralized market for livestock permits competitive forces to be expressed fully.[1]

The Decentralized Livestock Market

The exchange of livestock does not occur at a single place at a particular time. On the contrary, transactions in livestock are concluded over a large geographic space. Many different persons may be involved. The transaction may occur at a farm, buying station, country auction market, terminal market, packing plant gate, or at the edge of a road where a loaded truck may be parked while buyer and seller bargain. The livestock market is thus said to be decentralized. All the transactions are, nevertheless, linked by common market forces--the interest of buyers to buy cheap and sellers to sell dear.

Price-registering market outlets

The derived demand function for livestock of the packing plants is concentrated at the cities where the plants are located. The terminal markets have achieved a position of prominence in the market for

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[1]R. C. Ashby, "Types of Livestock Markets and the Price Structure," Journal of Farm Economics, 21 (1939), 195-218.

slaughter livestock and, to a lesser extent, for feeder and production livestock. The ultimate market forces determining prices are consumer demand, service margins, and the supply function, but, as Stout has written, " . . . terminal markets are generally considered to be price-registering points for the smaller auctions and receiving stations . . . ".[1] In Alberta the three terminal markets are Calgary, Edmonton, and Lethbridge. The large volume they handle, their proximity to packing plants, and their market reports make them acceptable as price-registers. Stout described the terminal market as " . . . a convenient price-registering system because of the news reporting facilities . . . "[2] Ashby attributed the prominence of the Chicago terminal market in the surrounding area to Chicago's importance as a packing and wholesale center and to the fact that two telegraphic market news services were released from Chicago.[3]

Any development in the livestock industry that increases the movement of animals through other marketing outlets than terminal markets is a decentralizing influence; therefore, auction markets have tended to be decentralizing forces, although they have also exerted some centralizing forces by offering alternative outlets for animals that were once exchanged under individual private treaty arrangements--the extreme form of decentralization.

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[1]T. T. Stout and R. L. Feltner, "A Note on Spatial Pricing Accuracy and Price Relationships in the Market for Slaughter Hogs," Journal of Farm Economics, 44, (1955), 213. (underlining mine)

[2]Stout and Feltner, p. 218.

[3]Op. cit., p. 196.

Auction markets as decentralizing forces and price-registers

Some auction markets, especially a few of the larger ones, serve as price-registers mainly for weaner and feeder hogs, very young calves, and feeder cattle. The selling of animals at auction markets is usually observed by many local farmers who gain experience in estimating the value of their own animals. The dealers who travel from one outlet to another, from farm to terminal market to auction market, are guided by the prices established at all market outlets including auction markets as they perform the arbitrage function. Auction markets might well assume positions of greater prominence as price-registers if their selling prices were systematically reported, perhaps by an independent agency.

Performance of the Decentralized Livestock Market

The transactions that occur in a decentralized market may be separated by distance and time. Common market forces tend to keep the prices in line so that the differences that do persist reflect the utility of distance and time. These common market forces are transmitted by arbitragers who are guided by the limited information they have. When distances are great, the information is likely to be inadequate or perhaps even wrong. The activities of any one trader (arbitrager) are not sufficiently extensive to warrant his relying only on his own resources to keep informed. Consequently, market information must be provided by some other agency, by the larger marketing outlets, or by the government. Market news services may well provide reasonably satisfactory market information respecting the selling of livestock at the terminal markets. News coverage at other markets is probably inadequate.

A model of a decentralized market

Market decentralization per se does not necessarily lead to unsatisfactory market performance. The conditions which would lead to satisfactory performance can be deduced from the following model of a decentralized market. (1) There are many producers and many consumers located in many different areas of the region affected by the market. (2) Trading in the processed or unprocessed product can occur at any place. (3) Trading activities are public and open to any buyer and seller. (4) Market information is communicated reliably and rapidly to all areas of the region at no cost to buyers and sellers.

If producers and consumers behave as self-interested arbitragers, the prices tend to differ by no more than transportation costs. Thus no particular trading locus can claim a special role in the discovery of prices. So long as the mode of selling is public, the particular mode employed--whether auction selling, recontracting, or tendering, etc.--does not affect the price.

The fact that terminal markets are viewed by some writers as price registers implies that some of the characteristics of the model are not matched by the facts of the real world. There are not many buyers, and there are only a few packing plant firms. Price differences may not properly reflect differences in the space, time, or form utility of the product. Trading in slaughter livestock tends to be concentrated in the cities where the packing plants are located. The communication of market information is imperfect.

Ideal decentralized market

Market decentralization per se does not necessarily lead to unsatisfactory market performance. The conditions which would lead to satisfactory performance can be deduced from the following model of a decentralized market. (1) There are many producers and many consumers located in many different areas of the region affected by the market. (2) Transport, selling, processing, and merchandising margins are zero. (3) Trading in the processed or unprocessed product can occur at any place. (4) Trading activities are public and open to any buyer and seller, and all market information is communicated reliably and rapidly to all areas of the region.

If producers and consumers behave as self-interested arbitragers, the prices tend to be the same over the entire market region. Thus no particular trading locus can claim a special role in the discovery of prices. So long as the mode of selling is public, the particular mode employed, whether auction selling, recontracting, or tendering, etc., does not affect the price.

The fact that terminal markets are viewed by some writers as price registers implies that some of the characteristics of the model are not matched by the facts of the real world. There are not many buyers, and there are only a few packing plant firms. The service margins are not zero, and price differences may not properly reflect differences in the space, time, or form utility of the product. Trading in slaughter livestock tends to be concentrated in the cities where the packing plants are located. The communication of market information is imperfect.

Unsatisfactory decentralized market

An unsatisfactory decentralized market would be characterized by unsatisfactory market structure, conduct, and performance. When the trading at a particular market is taken as a price-register, the presence of oligopsonistic power implies that prices can be manipulated for very short periods of time. The average prices for all but the very short periods are, however, derived from the consumer demand by subtracting the margins for merchandising, processing, selling, and transportation. With imperfect market information, prices might vary between outlets and from farmer to farmer without the economic justification of differences in time, place, or form utility.

Non-price procurement practices could exist without all farmers knowing about them or being able to assign dollar values to them. Concessions might be paid to truckers to divert supplies to particular packing plants. Assembly functions and buying activities might be duplicated, and margins might be excessive compared to some other alternative, for example, the compulsory selling where buyers and sellers have complete access and communication of market information is entirely satisfactory.

When the allocation of available supplies depends on the non-price strategies of a badly decentralized market characterized by direct delivery to packing plants, the price system may fail to perform the role of allocating livestock to packers. The economies of size in packing may occur at a lower volume than economies of size in direct buying especially if the ability to engage in short term predatory price strategies is subsumed under direct buying. It is conceivable that the apparatus for direct buying might shield old inefficient firms from the superior technology of some small plants or potential new entrants. The

decentralized market would then fail to meet the norms proposed by Sosnick: fresh areas of competitive contact would not be opened; inefficient rivals would be shielded; entry would not be as free as possible; profits would follow from the imperfection of the price discovery system and would not reward investment and efficiency. The decentralized market would be judged unsatisfactory on Caves' criteria also. There would be barriers to the entry of new firms. The conduct policies of the inefficient plants with the good direct buying apparatus would be aimed toward setting artifical prices and aimed at coercing rivals. The economic goals postulated by Caves include rewarding productive efforts; that goal would not be fully realized.

Have auction markets been decentralizing or centralizing forces as measured by their contribution to better market information? Have they improved the market for livestock exchange services and for livestock on the criteria proposed by Sosnick and Caves? These are questions of both fact and judgment that are treated in the following chapters of this work.

CHAPTER III

IMPERFECT COMPETITION IN THE MARKET FOR EXCHANGE SERVICES

Definition of Market for Exchange Services

The most essential aspect of the exchange service provided by an auction market is effecting the transfer of ownership and discovery of the selling price. The handling and weighing of the animals and the processing of the related statements, are secondary but still important aspects of the exchange service. The mode of price discovery and the secondary services provided at other outlets that sell exchange services may differ from the services at an auction market; nevertheless, the essential service must be effecting the transfer of ownership of the animals from seller to buyer. The revenues of the auction market are earned from their providing these services, not by purchasing livestock and reselling them; consequently, the market for exchange services is distinct from the market for the livestock themselves. Although these two markets are quite distinct, the performance of one is related to the performance of the other.

Country auction markets ("D" stockyards) are simply called auction markets by the livestock trade. The word market is used in a practical sense and has nothing to do with the economic nomenclature of structure, conduct, or performance of the market for exchange services or the market for livestock.

The market for exchange services comprises auction markets and all other such competing suppliers as terminal markets, buying stations,

dealers, farmers, and feeders. The market for livestock comprises all the buyers and sellers of livestock. The buyers and sellers of livestock are the demanders of exchange services. Dealers and others who operate as arbitragers have a special role, for they can at once be buyers or sellers of livestock and buyers or sellers of livestock exchange services.

Farmers' Choices of Marketing Outlets and Sources

An individual auction market vies with other outlets in supplying exchange services. It derives some monopoly power from its locational advantage in its local area, but it also competes with other auction markets and other outlets. The rivalry between it and its competitors diminishes as the distance between them increases. Its competitive position depends on the density of the livestock population and the characteristics, not only of the livestock, but also of the buyers and sellers. To gauge whether an auction market bears a greater resemblance to a monopoly than to a purely competitive firm, it is necessary to understand the many considerations that impinge upon the buyers' and sellers' choices of market outlets and sources. Such an understanding can be gained by reviewing the findings of a number of empirical studies of the marketing practices for livestock in Canada and the United States.

Empirical studies of marketing practices

Bjorka found that corn belt farmers preferred buying from auctions and from other farmers because livestock could be seen before being bought and because local cattle were preferred.[1] Terminal markets

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[1]Knute Bjorka et. al., "Marketing Livestock in the Corn Belt Region," Bulletin 365, South Dakota Agriculture Experiment Station, 1942.

were preferred because weights were considered more accurate. The auctions most generally patronized by packers were those where livestock was sorted into lots of uniform grade and weight, usually of deck size. It was common for livestock dealers, who apparently had business arrangements with certain packers, to buy and deliver stock to the packing plant. Small lots of cattle were sold at auction markets or to dealers, and larger lots were sold at the terminal market.

Fifty percent of feeder cattle were bought through auction markets in South Dakota in 1947.[1] Commercial feedlot operators relied less on auction markets and more on terminal markets for supplies than did farmers. The reasons given by farmers for selling at auction markets were that auctions were the best place for small numbers and good places for feeder animals. They were convenient and afforded the greatest amount of competition. Auctions were used as places to buy because a farmer could bid his own price, and in many instances, because they were the only source of supply. At the auction markets studied, buying by auctioneers was rather prevalent. The bulk of the animals arrived by truck and most were feeder, stocker, and breeding animals consigned by farmers. The slaughter cattle were sold mostly to dealers.

Callahan reported that Massachussets farmers in 1954 sold dairy cattle chiefly at auction markets and to dealers.[2] Farmers with larger herds sold mainly at auction markets, and farmers with small herds sold to dealers. Farmers gave "regular outlet, nearby and convenient, and

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[1]Ottar Nervik, "Marketing South Dakota Feeder Cattle," Bulletin 409, South Dakota Agriculture Experiment Station, 1951.

[2]James W. Callahan, "Market Outlets for Livestock in Massachusetts," Bulletin 497, Massachusetts Agriculture Experiment Station, 1957.

best deal," as their reasons for choosing auctions and dealers. Dealers often traded animals, and farmers indicated that they liked to "dicker". Farmers preferring auctions felt that competitive bidding and sales by weight helped to bring a higher price than sales of cows by the head. Average prices for the 54 farms reported showed that auction markets were the best places to sell young calves but that dealers paid higher prices for cows. Many areas of Western Massachusetts were not close enough to a terminal market to establish an average price at a terminal market. Livestock dealers were the principal source for the purchase of replacement cows. The typical dealer spent about one-half of his time dealing in livestock and the remainder at a farm or business. Slaughter cow transactions were about three times as frequent as replacement cattle transactions. The dealers sold three-quarters of the slaughter cows at terminal markets and one-quarter at slaughter plants.

The percentage of total feeder cattle sold through auctions greatly increased between 1940 and 1956 in the North Central States.[1] In most states this increase apparently came mainly at the expense of direct sales to farmers. However, direct sales to farmers continued to be a major outlet in the eastern area where feeder cattle production was located very close to cattle feeding operations. A decline in the percentage sold through terminals occurred in every state except one. The big increase in auction sales was in feeder cattle and calves; the increase in sales of animals for breeding or herd use was less. The choice of market outlet varied greatly from one class of animals to another. Small lots hauled by the farmers themselves were sold at

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[1]Richard R. Newberg, "Livestock Marketing in the North Central Region 1. Where Farmers Buy and Sell." Bulletin 846, Ohio Agriculture Experiment Station, 1959.

nearby outlets. Large lots hauled by commercial truckers were trucked to more distant markets. Farmers chose auction markets as sources of feeder cattle and hogs because the markets sold the desired kind or quality of animals and because it was convenient to buy livestock there. The main criticisms farmers reported were collusion among buyers and/or sellers, unsanitary conditions, and by-bidding. Farmers who obtained less than 50 percent of their income from the sale of livestock sold at auction markets or to dealers; farmers who obtained more than 50 percent of their income from the sale of livestock sold a large percentage through terminal markets and direct to packers. The tendency of the specialized producers to sell a higher percentage of slaughter livestock through terminals and direct to packers was balancing the increasing preference of farmers for outlets which were nearby or otherwise more conveniently located.

Packer buyers bought 40 percent of slaughter cattle and calves at southern auctions in the period 1953-1955.[1] Traders (dealers) accounted for 19.7 percent sales of those same classes. Percentages bought by various classes of buyers depended to some degree on the area considered. Packer buyers bought the best grades of slaughter animals while farmers and traders bought the poorer quality animals.

Producers were the most important consignors of all classes of animals at Kentucky auction markets.[2] In most of the market areas

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[1]Lewis D. Malphrus, "Hog Marketing Practices in South Carolina," Bulletin 425, South Carolina Agriculture Experiment Station, 1955.

[2]Ernest D. Gooch and C. D. Phillips, "Changes in the Market Movement of Kentucky Livestock," Bulletin 672, Kentucky Agriculture Experiment Station, 1960.

less than 50 percent of the slaughter cattle were purchased by packer buyers; the remainder were bought by order buyers and speculators. Order buyers bought most of the slaughter calves. Order buyers and packer buyers bought most of the slaughter hogs. Farmers bought nearly all of the feeder pigs, but speculators bought a few in some regions. In 1955 nearly ten percent of the total receipts of Kentucky markets were resold in other markets, chiefly other auction markets. Large cattle were resold mainly at terminal markets.

The terminal public market was the most important type of market used by southern Illinois farmers.[1] Terminal markets attracted 61 percent of the cattle and 68 percent of the hogs marketed through various channels. Auction markets received only ten percent of the cattle and two percent of the hogs.

The marketing practices of ranchers in southwestern Saskatchewan were reported by Burkell.[2] The four months, August to November, accounted for 98 percent of total marketings, the month of heaviest marketings being October. Over one-half of the ranch consignments consisted of a carload or more. Most of the cattle were sold to drovers, many of whom represented Ontario feeders. Sales were made when the drover visited the ranch, but weighing was done at the rail shipping points. Trailing was the predominant method of transporting cattle from the ranch to the shipping point. Only a small proportion of the cattle marketings were channelled through central markets or local auctions. Ranchers who elected

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[1]W. J. Wills, "Marketing Southern Illinois Livestock: A Study of Special Problems," Circular 713, Illinois Agriculture Experiment Station, 1954.

[2]S. R. Burkell, "Marketing Practices of Cattle Ranchers in Southwestern Saskatchewan," The Economic Annalist, XXIV, No. 5, (October, 1954), 108-112.

to sell cattle through terminal stockyards chose the stockyards in Calgary. Trucks were employed to move the cattle about 250 miles from Maple Creek to Calgary. Cattle were trailed or trucked to local auctions.

Ragush analyzed the methods of marketing of cattle in the area surrounding Saskatoon, Saskatchewan.[1] Fifty-seven percent of the cattle and 48 percent of the hogs marketed during the survey years, 1955 and 1956, were sold at stockyards and packing plants in Saskatoon. Twenty-five percent of the cattle and 20 percent of the hogs were sold locally to farmers and butchers and private buyers or drovers. The remaining 18 percent of the cattle and 32 percent of the hogs were sold at other markets, namely, Winnipeg, Edmonton, Prince Albert, Lloydminster, Calgary, North Battleford, Moose Jaw, and Swift Current. The proportion of hogs sold at Saskatoon decreased as the distance from Saskatoon increased. One-third of the respondents in the survey said they used a particular outlet because they had no alternative outlet. Those with smaller numbers of cattle to sell each year mentioned such factors as distance to the point and the importance of the market point as a shopping center. Where cattle and hogs were handled by a commercial trucker, the choice of market point was often stipulated by the trucker. The sale of cattle at the farm to drovers was largely a matter of convenience, except for some farmers at the 150 mile radius. No outright sales of hogs to drovers were reported. Selling directly to packing plants was the predominant practice in marketing hogs.

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[1] M. Ragush, "The Marketing of Livestock from Farms in the Saskatoon Area," The Economic Annalist, XXVII, No. 2 (April 1958) 35-39.

Implications of empirical studies

Many considerations affected farmers' decisions concerning buying and selling of livestock. Small lots of production or feeder animals were hauled wherever convenience and low transport costs prescribed. Larger lots of slaughter animals were hauled by commercial truckers to more distant destinations. The strength of demand varied with the class and quality of animals to be sold. The availability of animals at any market source depended upon the weights and classes to be bought. A number of rather subjective factors like convenience, curiosity, and habit were also important. It is, therefore, clear that no single seller of exchange services was uniformly preferred by farmers on all accounts.

Auction Markets as Imperfect Competitors

No seller of exchange services is uniformly preferred by farmers. The facts that services provided by auction markets are differentiated from the services provided by other suppliers of exchange services and that the decision on where to buy turns on many considerations imply that an auction market competes imperfectly with other auction markets, terminal markets, buying stations, and dealers. The importance that farmers attached to convenience and low transport cost confers on an individual market some degree of market power. That degree of market power must, however, be very limited by its proximity to other market outlets. Auction markets were on the average separated from their nearest rival auction market by only 15 to 30 miles. An individual auction market in 1965 competed with 51 other auction markets, three community auction sales associations, the direct buying of packers at seven plant gates and in the countryside, many dealers, 241 buying stations,

and about 70,000 farmers and feeders buying and selling on their own account.[1] The market power of an auction market is not great. Auction markets resemble perfect competitors more closely than they resemble monopolies.

Competitive position of individual auction markets

The competitive position of an auction market is determined only in part by its location near supplies of cattle or near feeders or packers and only in part by the quality of its price discovery, handling, and other services. It also depends upon the buyer and seller support per se. Rational buyers would be interested in the total purchase price including the costs of the exchange services. Rational sellers would be concerned about the net selling price. The magnitude of the charges for exchange services is small in relation to the value of the animals; consequently, the auction market's competitive activities will tend to be aimed at encouraging buyer and seller support by some other means than price competition. The competitive activities at some markets include buying cattle for resale or guaranteeing the prices of cattle to be sold at the regular auction market sale. The operators of many markets take measures to ensure that selling prices do not fall below the prices that sellers would receive at other outlets. Some operators act in the capacity as dealers, more often as order-buyer dealers than as speculator dealers. Most operators encourage the attendance of dealers. Charging dealers less than the usual tariff is a concession granted to dealers at some auction markets. The conduct of auction markets is analyzed in Chapter V.

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[1]Figures obtained from Livestock Branch, Alberta Department of Agriculture.

The individual auction market is differentiated by its classes of livestock, buyer and seller support, location, direct measures to improve its competitive position, policies toward setting the prices for exchange services, policies toward setting the quality of the services, and by the energy, ability, and public relations skills of its entrepreneurs. Auction markets have similar market, organization, and technological data; therefore, would be regarded as members of the same market subgroup as that term is defined by Papandreou.[1] The entire market group would include the auction markets and the other suppliers of exchange services already noted. This subgroup and group distinction is consistent with the opinions of auction market operators (Table 1). Half of the auction markets ranked another auction market as their chief competitor. The other half ranked dealers and truckers and the country buyers of packing plants as chief competitors.

TABLE 1

CHIEF COMPETITORS OF AUCTION MARKETS

Competitor	Proportion of markets that[a] ranked the competitor first
Other auction markets	.5
Dealers and truckers	.3
Country buyers of packing plants	.2
Local gathering stations	.0
Central markets	.0

[a]Auction market operators were asked to rank their chief competitors.

[1]A. G. Papandreou and J. T. Wheeler, Competition and Its Regulation. (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1954).

Nicholl's model for imperfect competition

It is worth noting that the kind of model Nicholls used for competition between oligopsonistic packing plants is not appropriate as a model for auction markets which are competitors, albeit, imperfect competitors.[1] The Nicholl's model applies the concept of derived demand. The forces of supply and demand are viewed as converging on the market in which the packer buys the livestock. The margins for merchandising and processing are subtracted from the consumer demand function to derive the demand function at the livestock market. The costs of hauling and selling the livestock are added to the farmers' supply function to obtain the supply (average cost) function facing the packers. Nicholls then examines the implications of assuming that the two packers share the market. A similar analysis is not appropriate for the services of auction markets because auction markets only handled but do not buy and resell the livestock and because an individual auction market has, as noted above, many competitors and, consequently, has no appreciable market power.

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[1]Nicholl's model is described fully in W. H. Nicholls, A Theoretical Analysis of Imperfect Competition with Special Application to Agricultural Industries. (Ames, Iowa: Iowa State College Press, 1942).

CHAPTER IV

AUCTION MARKETS AND THE STRUCTURE CHARACTERISTICS OF THE LIVESTOCK AND EXCHANGE SERVICES MARKETS

Some characteristics of structure must be defined before the growth of auction markets can be assessed in relation to the structure of the market for exchange services and the market for livestock. Sosnick defined structure to include the characteristics which determine a market's patterns, status, and composition.[1] Caves cited concentration, product differentiation, entry conditions, growth of market demand, price elasticity of demand, and the ratio of fixed to variable costs as the main elements of structure.[2] The market structure concept as used by Nelson and Manning is restricted to "characteristics which are peculiar to a market and are related to the conduct of buyers and sellers with respect to the transaction process."[3]

The characteristics of market structure that will be examined in this chapter are not all mentioned explicitly by the above authors. They are, however, the kind of characteristics hinted at in Sosnick's status and composition and Caves' concentration, entry conditions, and

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[1]S. H. Sosnick, "A Critique of Concepts of Workable Competition," Quarterly Journal of Economics, 77 (August 1958), 380-423.

[2]R. B. Caves, American Industry: Structure Conduct and Performance (Homewood, Illinois: Richard D. Irwin, 1965).

[3]R. E. Nelson and T. W. Manning, "Procurement Policies and Practices of Dairy Manufacturing Plants in Eastern South Dakota," Bulletin 497, South Dakota State College, Brookings, September 1961, p. 13.

growth of market demand. The elements of structure will be related in a later chapter to the conduct of buyers and sellers of exchange services and will thus be admissible under the Nelson and Manning criterion.

The elements of structure to be examined include changes in the numbers of auction markets; the circumstances under which auction markets came into existence; the number and classes of livestock sold; the buyers and sellers of the livestock; and the origin and destination of the livestock. The evidence provided below will bear on the structure of both the market for exchange services and the market for livestock. The analysis of the impact of auction markets will be incomplete because comparable descriptive statistics have not been published for other livestock outlets and sources.

The rise of auction markets in Alberta

The auction markets in Alberta have developed largely in the last twenty years. In 1956 the first year that licenses were required, licenses were issued to 22 auction markets (Table 2). Following a small increase in 1957 and a small decrease in 1958, there was rapid growth in numbers from 1959 to 1962. Only 52 licenses were issued in each of the years 1963 and 1964.

TABLE 2

THE NUMBER OF AUCTION MARKETS AND LIVESTOCK HANDLED[a]
ALBERTA 1956-1964

Year	D Stockyards	Livestock handled		
		Cattle and calves	Hogs	Sheep
1956	22	64,357	93,397	5,932
1957	24	101,843	127,463	8,749
1958	21	131,508	238,355	13,772
1959	32	164,477	271,211	15,724
1960	36	276,612	224,521	29,014
1961	49	350,020	303,416	32,224
1962	57	396,800	271,754	41,919
1963	52	424,551	293,779	31,797
1964	52	472,008	256,528	30,408

[a]Livestock Branch, Alberta Department of Agriculture.

The growth of auction markets in Alberta followed by some years the growth in the United States and showed a similar rapid increase and an eventual decline in numbers. There were 200 markets in 1937 in the United States, 1,345 in 1937, 2,500 in 1952, and 2,322 in 1955.[1] The growth of livestock auction markets was described as " . . . one of the most dynamic changes of our (U.S.A.) livestock marketing system."[2] The rapid growth of numbers of auction markets and in the numbers of livestock handled in Alberta would appear to support a similar claim for Alberta auction markets.

The development of individual auction markets

The operation of an auction market was an extension of related activities for many of the auction market operators. A single market with several owners reflected a diversity of backgrounds. For half the markets at least one operator had been a farmer and one had been an auctioneer before becoming market operators. At one-quarter of the markets at least one operator had been a livestock dealer. In 1962 many market operators engaged in other phases of livestock production or marketing including farming, feed-lotting, feed-milling, trucking, and in a few instances providing or obtaining capital or livestock for farmers. Many were continuing their dealer activities. Many auctioneers worked at several markets in the course of a week. Some operators had been part owners of more than one market.

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[1]The Select Committee of the Legislative Assembley of Manitoba, Livestock Marketing in Manitoba, Queen's Printer of Manitoba, Winnipeg, February, 1964.

[2]North Central Extension Marketing Committee, "Hog Marketing in the North Central States," Circular 582, University of Wisconsin, 1960.

Three of the markets surveyed were operated as cooperatives. The community sale at Pincher Creek is a part of the Community Auction Sales Association, which gave the impetus to auction selling by the auction and terminal markets. The other two cooperatives grew out of local shipping associations, and each continues to operate a receiving station for shipping livestock to a terminal market. Fourteen privately owned auction markets also operated receiving stations or buying stations on March 1, 1965.

Not all auction markets that once commenced operations have persisted; at least nine have discontinued. Many markets have undergone refinancing with the addition of new partners or shareholders. Three markets in the survey had changed hands in the same year that they were established. In some towns a market's operations may have lapsed for several months or years before being resumed by new operators, sometimes with considerable success.

Handlings of Livestock in Alberta

Handlings of cattle and calves in Alberta

The numbers of cattle handled in 1964 was 472,008 at auction markets, 641,134 at the three terminal markets, and 499,429 delivered direct to packing plants (Table 3). The percentage increase in handlings at auctions from 1956 to 1964 was over three times the percentage change for direct deliveries and over six times the percentage change for terminal markets.

TABLE 3

HANDLINGS OF CATTLE AND CALVES IN ALBERTA[a]

	Terminal market[b]	Direct to plants[b]	Auction[c] market
1956	583,760	234,284	64,357
1957	631,937	276,485	101,843
1958	664,200	244,583	131,508
1959	581,028	243,188	164,477
1960	590,454	293,203	276,612
1961	607,097	377,089	350,020
1962	651,272	374,436	396,800
1963	599,883	418,542	424,511
1964	641,134	499,429	472,008

[a]In 1964, 33,772 "other cattle," presumably slaughter cattle, were sold at auction markets. Thus the 1964 figure for Direct to Plants should be reduced by 33,772 from 499,429 to 466,657. Similar changes for other years could be made.

[b]Compiled from the Annual Livestock Market Review, 1956-1964.

[c]Livestock Branch, Alberta Department of Agriculture.

The year to year changes in direct sales at plants and handlings at terminal markets were not always increases. Auction market handlings increased regularly as the increase in their share more than offset variations in total production.

Handlings of hogs in Alberta

Handlings of slaughter hogs at the terminal markets decreased from 292,638 in 1956 to 119,428 in 1964 (Table 4). Since auction markets handled very few slaughter hogs, the shift away from the terminal market was associated with an increase in direct deliveries to packing plants. Handlings of feeder hogs at terminal markets increased from 40,158 to 93,885 in the same period. The handlings of feeder hogs at auction markets went from 93,397 in 1956, to 303,416 in 1961, and 256,628 in 1964.

TABLE 4

HANDLINGS OF HOGS IN ALBERTA

	Terminal market[a]		Inspected[a] slaughter	Auction[b] markets
	Slaughter	Feeder		
1956	292,638	40,158	1,182,892	93,397
1957	200,412	28,177	1,087,805	127,463
1958	206,986	78,487	1,352,598	238,355
1959	285,340	89,499	1,684,782	271,211
1960	225,258	60,696	1,334,367 down	224,521 up
1961	192,865	74,769	1,246,451 up	306,416 down
1962	176,732	78,285	1,351,535 down	271,754 up
1963	135,198	81,202	1,138,419 up	293,779 down
1964	119,428	93,885	1,381,411	256,528

[a]Compiled from the Annual Livestock Review, 1956-64.

[b]Livestock Branch, Alberta Department of Agriculture.

Auction markets were clearly important sellers of marketing services for non-slaughter hogs. The market for non-slaughter hogs corresponds more nearly than the market for any other class of livestock to an ideal decentralized market, except that communication of prices and other information depends largely on dealers or farmers that observe at several markets during the week. Even if prices were reported, comparisons would not be easy since many of the smaller hogs are sold by the head without being weighed.

Sales of all non-slaughter hogs at terminal and auction markets together increased relatively more quickly than inspected slaughter. There was either a shift toward specialization in the basic production and feeding operations or a shift from farmer (to dealer) to farmer transactions. Handlings of hogs at auction markets increased steadily from 1957 to 1961. The leveling off in recent years is consistent with the hypothesis that by 1961 most farms already had reasonable access to

an auction market. Starting with the change from 1960 to 1961, the inspected slaughter was down one year and up the next, but sales at auction markets were up one year and down the next. A rationale for these opposing cylical movements may be that the hogs were sold as feeders and breeding stock in one year and as slaughter hogs in the next year.

Handlings of sheep and lambs in Alberta

Handlings of sheep and lambs at auction markets ranged from 5,932 in 1956 to 41,912 in 1962, to 30,408 in 1964 (Table 5). Direct sales to packing plants doubled in the same period, while handlings at terminal markets varied between 40 and 55 thousand. The largest percentage increase occurred in auction market handlings.

TABLE 5

HANDLINGS OF SHEEP IN ALBERTA

Year	Terminal market[a]	Direct to plants[a]	Auction[b] markets
1956	44,198	52,721	5,932
1957	48,606	54,224	88,749
1958	51,363	56,573	13,772
1959	47,345	68,098	15,724
1960	45,098	63,921	29,014
1961	54,097	82,666	32,224
1962	50,801	86,233	41,919
1963	48,377	97,332	31,797
1964	41,556	98,318	30,408

[a]Compiled from the Annual Livestock Market Review, 1956-64.

[b]Livestock Branch, Alberta Department of Agriculture.

The Composition and Pattern of Handlings at Alberta Auction Markets

The classes of livestock handled at Alberta auction markets

Hogs were sold in greater numbers than any other class of livestock at Alberta auction markets in 1956 (Table 2). In that year 93,397 hogs were handled compared with 64,357 cattle, and 5,932 sheep. The balance swung away from hogs to cattle in the years 1959 to 1960. The increases in the numbers of cattle were regular even in 1963 and 1964 when the number of licenses issued dropped. Handlings of sheep have fluctuated and their low value per head makes them a rather insignificant part of the total auction market picture. Although hogs, like sheep, have a low value per head, their large numbers and the slightly higher rate of selling charges compared to cattle ensure that they will continue to be an important source of revenue for most auction markets.

Large markets sold a higher percentage of cattle than small markets sold in 1962.[1] Although the proportion of sales of other livestock were lower, the total sales were higher. Thus the typical large auction markets specialized in cattle, but also handled an absolutely greater amount of all classes than did typical small markets.

The sellers of livestock handled at Alberta auction markets

Farmers sold nearly all the animals that were sold at both large and small Alberta auction markets in 1962 (Table 6). They sold 96.1 percent of the cattle, 96.6 percent of the sheep, and 97.4 percent of the hogs. Feeders sold a very small percentage of the cattle and sheep. Dealers sold a small percentage of the cattle and hogs.

TABLE 6

THE SELLERS OF LIVESTOCK ALBERTA AUCTION MARKETS, 1962

	Cattle	Hogs	Sheep
Farmers	96.1	97.4	99.6
Feeder	0.7	0.0	0.4
Dealer	3.2	2.6	0.0

The buyers of livestock at Alberta auction markets

Farmers bought half of the cattle, half of the sheep, and 90 percent of the hogs. They bought, therefore, a smaller proportion than they sold (Table 7).

[1]Large markets handled over one million dollars worth of livestock in 1962. See Appendix for detailed tables relating size of the auction market to its structure and conduct characteristics.

TABLE 7

THE BUYERS OF THE LIVESTOCK HANDLED AT ALBERTA AUCTION MARKETS, 1962

	Cattle	Hogs	Sheep
Farmers	50.6	90.9	46.5
Feeder	11.4	2.0	12.2
Dealer	28.0	6.0	28.4
Packer	10.0	1.1	12.9

Since they sold nearly all the animals, the proportion of animals exchanged between farmers was also probably half of the cattle, half of the sheep, and 90 percent of the hogs. Feeders bought a larger proportion of livestock than they sold. They bought 11 percent of the cattle and 12 percent of the sheep but only two percent of the hogs. Dealers bought 28 percent of the cattle and 28 percent of the sheep. Many of the cattle and over 90 percent of the sheep that were bought for shipment to the United States were bought by dealers. Packing plant buyers bought 10 percent of the cattle, 13 percent of the sheep, and one percent of the hogs.

Farmers bought a smaller proportion of livestock sold at the large markets than at small markets. Dealers and packer buyers bought a greater proportion at large markets than at small markets. Dealers sold a greater proportion at small markets than at large markets. Feeders sold very few at any markets, but they sold a larger proportion of livestock sold at the large markets than at the small ones.

The origin of livestock handled at Alberta auction markets

Nearly all the livestock sold at Alberta auction markets in 1962 originated in the province (Table 8). The animals that came from British Columbia and Saskatchewan were chiefly cattle in the period of peak marketings in the fall and were sold at large markets in Southern Alberta. Some large markets were located in regions where flows were only intraprovincial.

TABLE 8

THE SOURCES OF LIVESTOCK HANDLED AT ALBERTA AUCTION MARKETS, 1962

	Cattle	Hogs	Sheep
Alberta	98.3	99.8	100.0
British Columbia	0.7	0.2	0.0
Saskatchewan	1.0	0.0	0.0

The destination of livestock handled at Alberta auction markets

Most of the livestock sold at Alberta auction markets in 1962 remained in the province (Table 9). Ten percent of the cattle and 26 percent of the sheep were exported to the United States. A small proportion of the hogs and cattle were sold to buyers from Saskatchewan. A very small proportion of the cattle went to British Columbia and Manitoba.

TABLE 9

THE DESTINATION OF LIVESTOCK HANDLED AT ALBERTA AUCTION MARKETS, 1962

	Cattle	Hogs	Sheep
Alberta	78.8	98.8	74.4
British Columbia	0.2		
Saskatchewan	2.6	1.2	
Manitoba	0.2		
Ontario	7.8		
U.S.A.	10.4		25.6

Ontario buyers bought eight percent of the cattle. The services of dealers (order-buyers and brokers), both residents and others, were used in over 50 percent of the livestock flows out of the province and in over 90 percent of the flows of sheep to outside points. Most of the animals sold to out of province buyers were handled at large southern markets specializing in cattle.

CHAPTER V

MARKET CONDUCT CHARACTERISTICS OF ALBERTA AUCTION MARKETS

Sosnick used conduct to refer to characteristics which are an enterprise's actions, dealings, or tactics.[1] Caves divided market conduct into policies toward setting prices, toward setting the quality of the product, and aimed at coercing rivals.[2] Five general categories of conduct are listed by Nelson and Manning: price practices, quasi-price practices, non-price practices, unethical practices, and adoption of technology.[3] The conduct characteristics to be examined below have been grouped into three kinds of characteristics, two of which are borrowed from Caves directly. Nothing will be written about Caves' third set of policies, those aimed at coercing rivals. It was concluded in Chapter III that auction markets are imperfect competitors having no appreciable power to coerce rivals. The characteristics to be used would fit easily under Sosnick's broad definition of an enterprise's actions, dealings, or tactics. The section here on policies toward setting prices deals with topics that Nelson and Manning divided into price and quasi-price practices. The section here on the quality of the exchange services

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[1]S. H. Sosnick, "A Critique of Concepts of Workable Competition," Quarterly Journal of Economics, 77 (August, 1958), 380-423.

[2]R. B. Caves, American Industry: Structure Conduct and Performance. (Homewood, Illinois: Richard D. Irwin, 1965).

[3]R. E. Nelson and T. W. Manning, "Procurement Policies and Practices of Dairy Manufacturing Plants in Eastern South Dakota," Bulletin 497, South Dakota State College, Brookings, September 1961, p. 13.

some practices that Nelson and Manning discussed under the headings of non-price practices or unethical practices.

Direct Measures to Improve the Auction Market's Competitive Position

Policies to increase the number of livestock offered for sale

About 85 percent of the operators in both the large and the small size groups drove to farmers' yards to view livestock. Some operators guaranteed a minimum price if the animals were to be sold at their auction market. Some operators bought livestock either for sale through their own market or disposition in some other manner. Some operators indicated that they had bought cattle for resale at their market in the very first sales of the market but had ceased that practice since. Some operators expressed the opinion that the practice of buying for resale was unsatisfactory: the operator either lost money on the transaction, or he sacrificed the goodwill of the farmer if the latter attended the sale and realized that the operator had made a profit on the transaction.

Policies to strengthen demand for livestock

Nearly all auction market operators bought livestock at their own sale. They bid to obtain cattle for their own feedlot, to fill an order, to speculate, to maintain the goodwill of a contributor, or merely to keep bidding moving quickly. By buying livestock,they tended to strengthen the market, unless other buyers took offense. Auction market operators noted that these related dealer activities might detract from the good reputation of a market. Sometimes the operator or one of his employees merely relayed information to dealers or packer buyers

that a particular farmer who preferred to sell his livestock at the farm had a load ready to be sold.

Clandestine private treaty sales were permitted only at four small markets. Nevertheless, they occurred, especially with horses. If an operator discovered such a sale, he sometimes assessed the seller the regular selling charge. Some private treaty sales were arranged by operators to aid buyers in arranging transportation.

Advertising policies

Commercial advertising media, newspapers, radio, and television, were used more frequently by large markets than by small markets. A greater proportion of large markets released information on both prices received and numbers sold than small markets. Commercial advertising was aimed primarily at sellers.

The usual mode of contacting buyers was a telephone call indicating that animals of a particular class suited to the buyer's usual requirements were to be offered for sale. The advertising activities of markets might well be improved if more farmers gave the operators advance notice of their intention to offer animals for sale.

Some operators felt that they were faced by a serious dilemma in releasing information on prices and numbers. They were reluctant to advertise such market information for fear of misleading farmers. They preferred to rely on attendance by buyers and sellers as the means of disseminating information.

Policies relating to the quality of animals

The livestock arrived on the day of the sale at most small markets. Some large markets encouraged the delivery of cattle to the

market the night before the sale. Cattle sold after standing a long time would presumably be "emptier" than those that arrived on sale day. Early delivery policies were aimed to encourage the attendance of packer and feeder buyers. Many of the small markets calculated a "pencil-shrink" on slaughter animals that they deemed to be obviously "overfull."

Policies Toward Setting the Prices for Exchange Services

Schedule of prices for exchange services

The charges for handling and selling cattle and calves were set on a slightly different basis at each auction market. The markets were, therefore, differentiated by their schedule of charges. The variations in bases for computing charges are indicated by the following selection of schedules: (1) Fat cattle--1.5 percent, stocker and feeder cattle--3.5 percent; (2) Cattle sold by weight--3 percent, cattle sold by dollar--5 percent; (3) Cattle over 500 pounds--$2.75, cattle under 500 pounds--$2.00; (4) Three percent up to maximum of $4.00 per head on cattle sold by weight; (5) All cattle--5 percent.

The typical rates for hogs and sheep were five percent of the selling price. The rates for horses were five percent at some markets and $5.00 per head at other markets.

Charges for animals not sold

All markets provided some means for the seller to retain ownership if the highest bid were unacceptably low. A "reserve bid" could be noted on the "booking-in" slip at some markets. The seller could bid once, twice, or several times at other markets. Some markets made available a combination of methods. The decision to sell or not to sell rested, at nearly all markets, with the seller. The ringman or

auctioneer acted as the seller's agent in making the decision at a few markets. The survey data revealed that only a very small proportion of animals offered for sale were not sold. The rates charged for animals not sold varied. Some common rates were: (1) No charge, (2) Full charge, (3) Entry fee retained or pen-cleaning fee charged, (4) One percent if animals returned to seller's premises--no charge if the animals were subsequently consigned through the auction market's buying station, (5) Rate depended on whether the operator deemed the bid reasonable, (6) Full charge if a private treaty sale were subsequently arranged by the operator.

Variations in the price schedule

Concessions were given to some customers in some circumstances. The percentage charged dealers was one or two percent less than the percentage charged other customers at many markets. Sellers contributing ten head or more feeder cattle were given reduced rates. Charges for hauling in auction market trucks ranged from zero to 80 percent of the local commercial rates.

Implications of price policies

The great variety in schedules of charges, concessions to some customers or in some circumstances, and charges in the event of an animal not being sold, makes direct comparision between the two size groups very difficult. The variations within each group are considerable.

Policies Toward Setting the Quality of the Exchange Services

Physical facilities at auction markets

The typical large market had a greater investment in physical facilities, more pen space, better weighing facilities, more employees, and held more sales during the year than the typical small market. Some large markets provided catwalks for easy viewing of the cattle and a gallery telephone for the use of buyers. These differences were more likely the consequences of size than the primary causes of size. A small market might have built more pens, installed a printing scale, and hired more workers with little prospect of increasing its volume of sales. An increased number of sales per year without other measures to attract buyers and sellers merely might have tended to reduce the average handlings with the result that outside buyers might have ceased to attend because their costs of attending would no longer have been covered.

Secondary services

Many small markets did not provide branding and dehorning services. Feed was supplied only on the rare instances that animals were held after the sale. Nearly all the southern Alberta auction markets that sold chiefly beef cattle provided these services and typically charged 25 cents for branding and 50 cents to one dollar for dehorning.

If handlings increased or these services were sought by farmers, it seems likely that the necessary facilities could have been provided within a few days or weeks. Some operators indicated that such facilities were then (1962) soon to be built and that few difficulties in building them or using them were anticipated.

Provision of assistance with transportation

One-half of the markets in both size groups owned trucks that could be hired by sellers or buyers. All markets except several in the small size group gave farmers assistance, when asked to do so, in arranging transportation. The strategy of giving assistance with transportation was directed more toward sellers than toward buyers.

Rapidity of settling accounts

Sellers could receive their payment very soon after the animals were sold by asking a clerk to prepare the statement and cheque. Payment was usually received from buyers before the animals were loaded. Some markets extended short-term credit to a few buyers. Packing companies often paid by cheque after having been invoiced by the auction market. The rapidity of making payment was a feature at large and small markets. Quick payment might, however, be a competitive strategy employed by all auction markets against other sellers of marketing services.

Weighing procedures

The animals were weighed either immediately before or immediately after being sold at markets having scales. Weighing before auctioning was the typical procedure, but one-third of the large markets surveyed weighed them after they were sold. (Terminal markets weigh livestock after they are sold.) The advantages claimed for delayed weighing were that large uneven packages could be split and weighed in the lots in which they are finally sold; reweighing would be avoided and selling might be expedited. Some auction market operators expressed the opinion that novice buyers with a particular sum of money to spend needed to know the weight to calculate the maximum price per pound that they could bid.

CHAPTER VI

AUCTION MARKETS IN RELATION TO CRITERIA FOR MARKET STRUCTURE, CONDUCT, AND PERFORMANCE

A distinction was drawn in the section "Market Organization: Characteristics and Criteria" in Chapter II between characteristics and criteria. Empirical magnitudes corresponding to structure and conduct characteristics were produced for analysis in Chapters IV and V. A chapter was not written on performance characteristics, for there are no simple characteristics. Sosnick, for example, avoided defining performance characteristics by saying that performance relates to dimensions which represent the realization of normatively significant economic results.[1]

Market organization criteria are, however, much more difficult to manage than are the characteristics. Conclusions must be drawn carefully from the structure and conduct characteristics that were examined in the two chapters immediately preceding this one. A great deal of judgment must be brought to bear on performance criteria. As Sosnick has summarized the problem, "Performance is what is of ultimate concern here. Whether it is satisfactory cannot be inferred from fulfillment of requirements for structure and conduct; satisfactory performance requires an exercise of managerial descretion and a sense of social responsibility."[2]

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[1] Sosnick, p. 387.

[2] Ibid, p. 381.

Sosnick's performance norms are a conglomeration of dicta that range from economic efficiency to profit levels and innovation, conservation, national defense, and political power. Some of them are mutually exclusive. An economist is in no better position than an ordinary layman in gauging what is excessive political and economic power, or in assessing the importance of national defense. In mentioning innovation and conservation, he raised the unmanageable questions of intertemporal and interpersonal comparisons of utility. Even Sosnick's structure and conduct norms (criteria) include words like appreciable, adequate, fresh, unfair, predatory, and misleading.

Cave's criteria for performance relate more obviously to questions of economics than do Sosnick's norms. Efficiency can be given the economic meaning of price equals marginal cost. The employment-inflation trade-off he notes in the second criterion is the familiar Phillip's curve analysis. His third criterion hints at a trade-off between oligopoly forces and technological improvement. His fourth criterion carries the matter straight to the crossroads of welfare economics.[1]

Criteria for market organization may not be altogether acceptable. Perhaps the very nature of the problem will preclude finding any simple set of criteria that would be generally acceptable. The Sosnick and Caves criteria do serve, however, to point out the variety of aspects about which a society ought to be concerned. Sosnick is concerned with examining the changes that could be made for a satisfactory state of all malleable dimensions. Caves said that a judgment

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[1]Caves, p. 95.

on performance must compare actual performance with potential performance. Therefore, it will be profitable to analyze auction markets in relation to criteria for market structure, conduct, and performance with a view to finding possible improvements. The ensuing discussion will be integrated with the criteria given by both writers for all three dimensions.

The local market and savings of transport costs

The contribution of auction markets to overall marketing efficiency is the greatest for those classes of animals having local demand. Auction markets are very important in the marketing of production and feeder animals. Only a few large markets handled appreciable numbers of slaughter cattle. Auction markets have provided the services needed for exchanges of livestock within the local community. In the absence of auction markets the costs of marketing paid by farmers in one form or another would increase. Hauling costs to and from a distant market would be great, or the implicit high price of services of skillful dealers would be required. If the exchanges were reduced markedly, then the cost would take the form of farmers not being able to specialize production fully.

Two-way cattle suitable either for further fattening or immediate slaughter are presently an important part of the handlings at auction markets. Perhaps fewer two-way cattle will be marketed in the future as farmers acquire experience in feeding cattle. The facilities needed to add the next one hundred pounds to an animal are the same facilities required to add the last one hundred pounds. Offering the cattle for sale is fully analogous to stopping a cattle truck and chasing the cattle off and then on again. Savings of trucking and selling costs

would accrue to the feeder who keeps the animals right through to a weight and quality suitable only for the slaughter market. Increasing vertical integration of feeding operations will reduce the sales of two-way cattle.

General acceptance of the auction method of selling

The auction method of selling is now used at the terminal markets, country auction markets, the Community Auction Sales Association, and the cooperative associations at Walsh and Lea Park. The auction method of selling was pioneered in Alberta by the Community Auction Sales Association and was given further impetus when other country auctions began about 1948.[1] "The Community Auction Sales Association was the forerunner of selling by this method, and the general acceptance on the part of producers as to this method of selling definitely influenced the shift on our (Calgary terminal) markets from private treaty to auction selling."[2] The auction method was tried experimentally for several years before it superseded the private treaty method at Alberta terminal markets in 1950. Other terminal markets in Canada have followed the Alberta innovation, but many large terminal markets in the United States still use the private treaty method. The general acceptance of the auction method of selling would appear to give it the seal of approval of buyers and sellers of livestock.

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[1]The very interesting development of the Community Auction Sales Association is traced in "Twenty-Five Years with Community Auction Sales," Canadian Cattlemen, (April 1964), 16-19.

[2]Private communication from C. Kennedy, September 1965.

The shift from sale by treaty to sale at auction may be viewed as meeting the Sosnick structure norm for the continual opening of fresh areas and types of competitive contact. The shift would also be judged an innovation or improvement of techniques and thus falls under the performance criteria of both Sosnick and Caves.

Entry of new firms supplying exchange services

The rapid rise of auction markets and the steady growth in the number of animals they handled may be taken to indicate that entry into the auction market subgroup has been relatively easy. The decline in the number of markets from 1960 to 1962 implies that too many auction markets had entered. Neither legal restrictions, artificial handicaps to mobility, nor predatory or coercive activities of other firms are important barriers to entry. Entry is as free as the nature of the industry permits and is restricted by such natural factors as the limited production of livestock and the location of other auction markets at distances of 15 to 30 miles from each other.

Policies toward setting prices

Auction markets engage in some price competition with each other. There are, however, other forms of competition. The schedule of fees varied from market to market, indicating that the firms strive in rivalry and pursue their independent judgment. There would be some uncertainty whether a price reduction would be met by other firms. Because price competition includes the setting of regular charges, special charges for special customers, charges for secondary services, and charges for trucking, it may be difficult for farmers to have complete information about the prices of the exchange services. There is no evident practicable way for overcoming this lack of information. Not all markets

follow the schedule suggested by the Alberta Auction Market Association; not all markets are members of that trade association. Even if it could be demonstrated that uniform schedules of prices would overcome the defects in farmers' knowledge, there might be no practical way of policing such a schedule. Any one farmer probably has only three or four reasonable alternatives in choice of auction market because of transportation costs, and he might, therefore, be able to acquaint himslef with the price schedules of his alternative auction markets. The slight degree of monopoly power that an individual auction market derives from its location implies that price is not set equal to marginal cost. Thus it would seem possible for more farmers to bargain with the operator for special price concessions. The inequality of price and marginal cost implies that allocation of resource in the economy is imperfect, as it is in all cases of monopoly unless the degree of monopoly is the same throughout the economy.

It would not be easy to assess the effect that the growth of auction markets has had on the schedule of charges applied by other sellers of marketing services. The charges at the terminal markets increased over the periods 1945 to 1965. The upward movement of charges accompanied an upward movement in the cost of labor, which was the largest variable cost.

Competition among auction markets has reduced their charges, especially for fat cattle. A similar finding was reported for Ontario.[1] The auction market operators in the survey indicated that other auction

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[1]Report of the Ontario Agricultural Enquiry Committee, Ontario Department of Agriculture, 1961.

markets were their closest rivals (Table 1) and that fees were set to be in line with fees charged at other auction markets.

Changing market shares and implications to market information

No data were collected in the course of the research to permit an answer to the question, "Which sellers of market services were most affected by the growth of auction markets?". A definitive answer could be obtained only by interviewing farmers to determine changes in their marketing practices in the last 20 years. The view that auction markets primarily cut into the share of drovers seems plausible and finds modest support in the following bits of indirect evidence: (1) That view was volunteered by some market operators, (2) The second most important rivals of auction markets in 1962 were (still) dealers and truckers (Table 1), (3) That view is shared by some observers at the terminal markets, (4) A similar finding was reported for Ontario: "The increasing popularity of community auctions with farmers has reduced the traditional business of drovers who are now usually by-passed in the off farm trade."[1]

Callahan concluded in a Massachussetts study that "Auction selling has provided an alternative outlet for farmers in the western part of the state. Competitive bidding, sales by weight, and volume purchases by dealers and packing houses representatives have created an improved market situation for livestock during the postwar period."[2]

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[1] Report of Ontario Agricultural Enquiry Committee, Ontario Department of Agriculture, 1961.

[2] J. W. Callahan, "Market Outlets for Livestock in Massachussets," Bulletin 497, Massachussets Agricultural Experiment Station, 1957.

The farmer to farmer trade once mediated by a drover has given way to some extent to exchanges at auction markets. Many persons believed that farmers were simply reluctant to engage in private treaty sales among themselves. The cost to farmers in both money and time of searching out the desired class and number of animals was another obstacle removed by the rise of the local auction market. The development of a network of all-weather roads and the ownership by farmers of an increasing number of trucks has afforded farmers greater flexibility in their choice of marketing method, by making short hauls more economical. The farmer became able to haul his own livestock to a nearby auction market and to haul them back to his farm again if he was not satisfied with the price they brought. By watching the selling of livestock at the auction market, the farmer has become a better judge of quality and weight and has ceased to be at the mercy of the skilled drover fortified with superior information.

In addition to serving as a source of price information, the auction market has also served as a source of names of potential buyers and sellers. Market operators reported that both buyers and sellers attempted to save marketing costs by making private arrangements for future purchases or sales with individuals observed to be interested in particular classes of animals at the market.

Some aspects of programs to improve market information

It was argued in the section "Ideal Decentralized Market" that decentralization per se would not result in unsatisfactory performance of the livestock market. Whether a decentralized market has satisfactory performance depends largely on the adequacy of the market information. Many of the auction markets in Alberta do not report the number and

prices for their sales in any systematic way. It might be possible to improve the performance of the livestock market by creating a market information service for auction markets. An illustration of the consequences of inadequate information have been given by McPherson:

> For example, prices discovered in local auctions for low-grade cattle are reasonably representative of prices in the national market. On the other hand, prices paid for high-grade cattle in the same local auctions are well below the national market, largely because the volume of trading in these grades is small. In these instances, the defect in the price discovery mechanism is largely due to the fact that some sellers do not know that prices paid for high-grade cattle at local auctions are frequently low. More complete market information from local sources would reveal the volume of trading in each grade of livestock and point out instances in which the trading was too small to establish a reliable price. [1]

It should not be supposed that the deficiencies in market information reported elsewhere are the same deficiencies that would be found in Alberta in 1966. It is conceivable that prices of feeder cattle would be higher at auction markets than at terminal markets, if the farmers buying at auction markets were less well informed than the order buyers at terminal markets. The quotation was cited to indicate the consequences of inadequate information.

Market information sought by farmers

Some clues on the kind of information desired by farmers have been gathered by McCormick.[2] The local reports were found to be inadequate partly because many radio personnel were not qualified for the

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[1] W. K. McPherson, "Improvement of Livestock and Grain Market Reports," Journal of Farm Economics, 38 (1956), 154-158.

[2] F. B. McCormick, "Livestock and Grain Market Reports--They Can Be Improved," Journal of Farm Economics, 38 (1956), 1775-1778.

reporting job. Farmers wanted market reports from both radio stations and daily newspapers. They wanted reports from local as well as terminal markets. Actual prices and actual receipts were desired information. The mere quoting of the highest price was regarded as insufficient. Farmers wanted the report broken down by classes of animals and wanted a summary statement and some indication of the trend in prices. Many farmers regarded the noon hour as the most suitable time for reports to be broadcast. These specifications seem to be rather refined and perhaps somewhat too complicated to be acted upon entirely. They do, however, indicate very clearly that the farmers McCormick interviewed were fully aware of the importance of good information and felt that the current reports were inadequate.

Financing a market information service

One objective of a South Dakota study was to see if it would be practical to operate a market news service for livestock auctions in that state.[1] Several methods of financing the reporting service were considered. It was concluded that a printed report could not be supported by subscriptions alone and that selling advertising space in the report would tend to reflect on the objectivity of the report. An assessment of one cent per head on all cattle sold through auctions was proposed by the South Dakota Stockgrowers Association, but such a plan would have encountered difficulties of a purely legal kind. Nervik concluded that direct state legislative appropriations would be the most suitable form of financing and noted that by supporting such a service,

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[1]O. Nervik et.al., "A Market News Service for Livestock Auctions in South Dakota," Bulletin 454, South Dakota Agricultural Experiment Station, 1955.

the government would be merely recognizing that auctions are becoming an increasingly important method of marketing. In Nervik's view, market news reporting is generally considered to be a public function.

There is no evident reason why some combination of all three methods might not be satisfactory. Nervik believed that the purposes of price reporting and forecasting trends might be better served by keeping them as separate functions. Market reports should disseminate only factual information. Outlook information should be provided by another agency.

Seventy-three percent of the farmers and ranchers interviewed in the study believed that some type of report would have an influence in bringing out-of-state buyers to South Dakota. The proposal of the marketing committee of the Stockgrowers Association was cited by Nervik as an indication of the importance that group placed on auction market news as an advertising and promotions medium.

A prototype of a reporting system for Alberta

The reporting systems employed in several states including New York are described in the Nervik bulletin. Information for the 30 auctions in New York was recorded by the individual market operators on a form provided by the state. On the morning following the weekly sale, the market information was telephoned into one of the four state offices. The overall market report was compiled from the information forms and sent to newspapers and radio stations in the area in which the auction is located. The costs of dissemination were financed by the government.

The New York method of reporting would appear to be a satisfactory prototype for a reporting system for Alberta auction markets.

Some modifications might be advisable. Farmers should be able to purchase the blank report forms so that they could pencil in the prices and numbers data. The report should cover the entire province because variations are likely to be great over great distances and slight within an area covered by one or two dealers. The implicit charges for this kind of system would be borne by farmers, auction markets, consumers, and the government. The gains resulting from increased marketing efficiency and the transfers from drovers' incomes would accrue to these same groups. The system would probably work even if some auction markets chose not to participate. The system would be self-disciplining in the sense that operators who supplied misleading information might gain in the short run but would certainly lose customers in the long run.

Conclusion

Market theorists, the livestock industry, and society as a whole should give immediate attention to ways of improving market information for the Alberta livestock market. As long as the exchange activities at auction markets are not reported systematically and fully, the Alberta livestock market will not be characterized by a satisfactory state of all malleable dimensions.

CHAPTER VII

SUMMARY

Structure Characteristics

The auction markets in Alberta have developed largely in the last twenty years. The number of licenses issued rose sharply from 1948 to 1962 and declined slightly thereafter. Most auction markets were privately owned in 1962; three were operated as cooperatives. Previously auction market operators had been engaged primarily in farming, auctioneering, or dealing in livestock. One-quarter of the markets operated buying stations in 1965.

Handlings of livestock in Alberta

Handlings of cattle and calves and hogs increased more rapidly at auction markets than at terminal markets and plant gates. Auction markets do not handle appreciable quantities of slaughter hogs, but they are the dominant suppliers of exchange services for weaner and feeder hogs. The importance that farmers attach to convenience and low transportation costs and the presence of local demand for feeder and production animals are responsible for the important role all auction markets play in non-slaughter animals.

The composition and pattern of handlings

Since 1960 auction markets have sold more cattle than hogs. Sheep are not sold in appreciable numbers except at a few markets. The

typical large market specialized in cattle, but it also handled a greater amount of all classes than did typical small markets.

Farmers sold nearly all the animals that were sold at both large and small Alberta auction markets. They bought a smaller proportion than they sold. Dealers and packer buyers bought mainly at large markets. Dealers sold mainly at small markets. Feeders sold very few livestock at any auction markets, but the animals they did sell were contributed to large markets.

Nearly all the livestock sold at Alberta auction markets in 1962 originated in Alberta, and most of the livestock were sold to Alberta purchasers. Exports of cattle went mostly to Ontario and the United States. The services of dealers, both residents and others, were used in over 50 percent of the flows of livestock out of the province and in over 90 percent of the flows of sheep to outside points. Most of the animals sold to out-of-province buyers were handled at large southern markets specializing in cattle. Some large markets were located in regions where flows were only intraprovincial.

Conduct Characteristics

Three kinds of competitive practices were analyzed. Direct measures to improve an auction market's competitive position included guaranteeing selling prices and buying animals for resale later at the auction market's weekly sale. Nearly all auction market operators bought livestock at their own sale. Large markets used commercial advertising more frequently than small markets and released more market information than small markets released. Policies relating to the quality of animals and weighing procedures varied from market to market.

Prices for exchange services

Price competition is an important, but not dominant, form of competition. Conduct policies toward setting the prices for exchange services differentiate the services of auction markets from one another and from other suppliers of exchange services. Selling charges were computed as a percentage of selling price or on the basis of the animal's weight. All markets provided some means for the seller to retain ownership if the highest bid were unacceptably low. The survey data revealed that only a very small proportion of animals offered for sale were not sold. The rates charged for animals not sold varied from market to market. Price concessions were given in some circumstances. Dealers commonly paid reduced prices.

Quality of exchange services

Policies toward setting the quality of the exchange services did not appear to explain the differences between the typical large and small markets. The physical facilities were, however, more extensive and elaborate at large markets than at small markets. Many small markets did not provide branding and dehorning services. All markets except several in the small size group gave farmers assistance, when asked to do so, in arranging transportation of animals to the auction market. The rapidity with which contributors were paid is a characteristic of all markets and a strategy aimed by all auction markets at other suppliers of marketing services.

Market Performance Criteria

The contribution of auction markets to overall marketing efficiency is greatest for those classes of animals for which local demand is strong. An individual auction market derives a slight degree

of market power from its locational advantage and the importance farmers attach to convenience and low transportation costs. Competition among auction markets has lowered the prices of their services. Auction markets are their own chief rivals.

The general acceptance of the auction method of selling would appear to give it the seal of approval of buyers and sellers of livestock. Auction markets made at least a small contribution to the acceptance of auction selling; the Community Auction Sales Association was the chief innovator.

Entry of new firms into the auction market subgroup is as free as the nature of the industry permits and is restricted only by such natural factors as the limited production of livestock and the location of other auction markets at distances of 15 to 30 miles from each other.

Several bits of indirect evidence were cited in support of the view that auction markets cut primarily into the share of drovers. In reducing the share of drovers, auction markets have improved the performance of the livestock market. Market information has been improved and farmers having access to auction markets and all-weather roads are no longer at the mercy of the skilled drover. The incomes of farmers have tended to rise; the incomes of drovers are now limited more nearly to a return for the pure arbitrage function they perform. It should not be supposed, however, that information about the livestock market is adequate. Improvements in market information undoubtedly could be made. The literature contains descriptions of programs to improve market information, indications of the kinds of information sought by farmers, and suggestions for financing a livestock market information service. As long as the selling activities at auction markets are not reported

systematically and fully, the Alberta livestock market will not be characterized by a satisfactory state of all malleable normative dimensions.

A P P E N D I X

TABLE 1
THE YEARS AUCTION MARKETS WERE ESTABLISHED; THE PREVIOUS EXPERIENCES OF OPERATORS, 1962

Small markets			Large markets		
Size[a]	Year[b]	Experience[c]	Size[a]	Year[b]	Experience[c]
00.5	1962	S	21.1	1959	DA
01.7	1956	DAF	21.2	1953	FO
02.9	1959	ATF	22.9	1953	F
03.0	1961	O	23.5	1954	DA
03.2	1960	O	23.7	1957	D
03.6	1960	DF	28.5	1955	DAFO
04.0	1960	F	35.0	1963	DO
04.1	1950	F	36.2	1958	DAT
04.3	1962	AF	43.3	1958	DTF
04.7	1956	AF	48.2	1955	DF
04.8	1962	F	48.4	1948	AF
05.9	1959	DA	100.0	1960	DAF
06.1	1908	A			
06.4	1961	DA			
06.6	1961	DF			
06.9	1959	F			
07.2	1959	AFO			
08.3	1954	AFO			
08.8	1954	AF			
12.4	1955	AF			
12.8	1953	AO			
12.9	1952	O			

[a]One size unit equals $65,000 worth of livestock handled in 1962.

[b]Year in which market commenced operations under first operators.

[c]Previous experience of current operators: Auctioneer, Dealer, Farmer, Salesman, Trucker, and Other. (A single letter may stand for more than one operator.)

TABLE 2

VALUE OF LIVESTOCK HANDLED AT ALBERTA AUCTION MARKETS, 1962

Small markets				Large markets			
Size[a]	Crop district	Beef[b] cattle	Other[c] livestock	Size[a]	Crop district	Beef[b] cattle	Other[c] livestock
00.5	2	100.0	00.0	17.4	5	30.2[d]	69.8
01.7	6	30.9	69.1	21.1	4	70.3	17.8
02.9	2	80.3	19.7	21.4	6	59.4[d]	40.6
03.0	5	70.3	17.2	22.9	2	96.2	03.8
03.2	5	71.7	25.4	23.5	4	99.7	00.0
03.6	1	89.7	10.3	23.7	7	91.1[d]	08.9
04.0	4	98.5	01.0	28.5	5	90.5	08.8
04.1	5	71.7	25.5	35.0	2	100.0	00.0
04.3	4	88.4	04.4	36.2	1	99.4	00.6
04.7	6	61.2	38.5	38.5	3	65.0[d]	35.0
04.8	3	96.8[d]	03.2	43.3	3	94.2	04.8
05.6	5	75.4[d]	24.6	48.2	1	100.0	00.0
05.9	4	87.2	10.8	48.4	4	90.0	06.6
06.1	3	68.2	24.7	51.0	2	90.6[d]	09.4
06.2	2	75.9	24.1	100.0	3	98.4	01.6
06.3	5	64.6[d]	35.4				
06.4	4	49.8	10.9				
06.6	7	96.2	03.4				
06.8	5	64.2[d]	35.8				
06.9	3	60.7	39.3				
07.2	2	85.8	11.5				
07.3	2	00.0	00.0				
08.3	5	71.2	27.1				
08.8	4	87.6[d]	12.4				
12.4	5	52.6	21.8				
12.8	1	99.9[d]	00.1				
12.9	4	63.2	31.8				
14.8	6	89.4[d]	10.6				

[a]One size unit equals $65,000 livestock handled.

[b]Figures for beef cattle, other livestock, and dairy cattle (missing) must total 100.0.

[c]Other livestock were 80 percent hogs.

[d]Figures estimated and include all cattle.

Note:

Average values for this study were: all cattle--$118.50, hogs--$14.50, sheep--$11.30, and other--$61.00.

TABLE 3

THE SELLERS OF LIVESTOCK
ALBERTA AUCTION MARKETS
1962

	Cattle and calves	Hogs	Sheep
Farmer	381,324	264,688	0
Feeder	2,778	0	168
Dealer	12,698	7,066	41,751
Total	396,800	271,754	41,919

TABLE 4

THE BUYERS OF LIVESTOCK
ALBERTA AUCTION MARKETS
1962

	Cattle and calves	Hogs	Sheep
Farmer	200,781	247,025	19,492
Feeder	45,235	5,435	5,114
Dealer	111,104	16,305	11,905
Packer	39,680	2,989	5,408
Total	396,800	271,754	41,919

TABLE 5

SIZE OF AUCTION MARKET AND SELLERS OF LIVESTOCK

Small markets				Large markets			
Size[a]	Farmer	Feeder	Dealer	Size[a]	Farmer	Feeder	Dealer
00.5	88.8		11.2	21.1	100.0		
01.7	100.0			22.9	92.7	01.3	06.0
02.9	100.0			23.5	95.5		04.5
03.2	75.6		24.4	35.0	91.0	07.8	01.2
03.6	100.0			36.2	99.7		00.2
04.1	96.2		03.8	43.3	97.6		02.4
04.3	95.6		04.8	48.2	98.9	00.2	00.9
04.7	83.6		16.4	48.4	98.7	00.4	00.9
05.9	66.6	04.5	28.9	100.0	99.3	00.3	00.4
06.1	98.4		01.6				
06.4	99.1		00.9				
06.6	100.0						
06.9	100.0						
07.2	93.3	02.6	04.1				
08.3	94.3	05.7					
12.4	79.6		20.4				
12.9	93.3		06.7				

[a]One size unit equals $65,000 livestock handled in 1962.

TABLE 6

SIZE OF AUCTION MARKET AND BUYERS OF LIVESTOCK, 1962

Small markets					Large markets				
Size[a]	Farmer	Feeder	Dealer	Packer	Size[a]	Farmer	Feeder	Dealer	Packer
00.5	96.8	00.0	03.2	00.0	21.1	53.7	00.7	26.2	19.4
01.7	52.7	00.0	47.3	00.0	22.9	35.1	18.2	41.9	04.8
02.9	89.3	05.7	05.0	00.0	23.5	47.9	03.6	32.6	15.9
03.2	82.6	11.0	06.4	00.0	35.0	13.9	34.1	31.5	20.5
03.6	81.7	14.8	03.5	00.0	36.2	49.7	20.3	19.7	10.3
04.1	84.8	00.0	15.1	00.4	43.3	54.3	13.4	12.2	20.1
04.3	58.2	05.7	21.4	14.7	48.2	16.3	15.5	50.6	17.6
04.7	77.0	01.6	21.4	00.0	48.4	60.4	07.8	11.7	20.1
05.9	57.2	03.3	24.9	14.6	100.0	35.9	11.2	39.9	13.0
06.1	100.0	00.0	00.0	00.0					
06.4	63.0	00.2	23.1	13.7					
06.6	35.8	05.1	45.3	13.8					
06.9	15.7	23.7	43.5	17.1					
07.2	70.2	03.4	02.5	23.9					
08.3	96.5	00.0	00.4	03.1					
12.4	77.1	00.6	22.3	00.0					
12.9	73.1	20.4	05.8	00.7					

[a]One size unit equals $65,000 livestock handled in 1962.

TABLE 7

THE SOURCES OF LIVESTOCK
ALBERTA AUCTION MARKETS
1962

	Cattle and calves	Hogs	Sheep
Alberta	390,054	271,210	41,919
British Columbia	2,778	544	0
Saskatchewan	3,968	0	0
Total	396,800	271,754	41,919

TABLE 8

THE DESTINATION OF LIVESTOCK
ALBERTA AUCTION MARKETS
1962

	Cattle and calves	Hogs	Sheep
Alberta	312,678	268,493	31,188
British Columbia	794		
Saskatchewan	10,317	3,261	
Manitoba	794		
Ontario	30,950		
United States	41,267		10,731
Total	396,800	271,754	41,919

TABLE 9

SIZE OF AUCTION MARKET AND SOURCE OF LIVESTOCK

Small markets				Large Markets			
Size[a]	Alberta	B.C.	Sask.	Size[a]	Alberta	B.C.	Sask.
00.5	100.0			21.1	100.0		
01.7	100.0			22.9	99.7		00.3
02.9	100.0			23.5	97.3		02.7
03.2	100.0			35.0	100.0		
03.6	100.0			36.2	95.4		04.6
04.1	100.0			43.3	100.0		
04.3	100.0			48.2	96.1		03.9
04.7	100.0			48.4	100.0		
05.9	100.0			100.0	96.1	03.9	
06.1	100.0						
06.4	100.0						
06.6	100.0						
06.9	100.0						
07.2	100.0						
08.3	100.0						
12.4	100.0						
12.9	97.1		02.9				

[a]One size unit equals $65,000 livestock handled in 1962.

TABLE 10

SIZE OF AUCTION MARKET AND DESTINATION OF LIVESTOCK, 1962

Size[a]	Alberta	B.C.	Sask.	Man.	Ont.	U.S.A.
			Small markets			
00.5	100.0					
01.7	100.0					
02.9	100.0					
03.2	100.0					
03.6	100.0					
04.1	100.0					
04.3	88.0					12.0
04.7	100.0					
05.9	72.8		22.1			05.1
06.1	100.0					
06.4	98.2					01.8
06.6	100.0					
06.9	98.7					01.3
07.2	100.0					
08.3	100.0					
12.4	100.0					
12.9	100.0					
21.1	84.0		06.2		01.7	08.1
			Large markets			
22.9	83.4		12.8			03.8
23.5	75.5		00.7		13.7	10.1
35.0	78.4		00.6		14.8	06.2
36.2	62.7		16.8	01.6	04.3	14.6
43.3	88.6					11.4
48.2	58.8	00.2	03.0		24.1	13.9
48.4	100.0					
100.0	60.3	01.4		00.5	18.6	19.2

[a]One size unit equals $65,000 livestock handled in 1962.

TABLE 11

MONTHLY HANDLINGS OF CATTLE AND CALVES
ALBERTA, 1964

	Stockyards and plants[a]			Inward movement[a]			D Stockyards[b]				
	Cattle	Calves	Total	Cattle	Calves	Total	Feeder cattle	Dairy cows	Calves	Other cattle	Total
January	67,647	8,079	75,726	8,200	4,349	12,549	14,691	937	7,349	1,909	24,886
February	64,059	8,060	72,119	11,037	4,853	15,890	20,432	1,079	7,216	2,213	30,940
March	76,319	10,499	86,818	14,133	4,995	19,128	22,827	1,874	8,953	3,229	36,883
April	65,743	8,432	74,175	13,218	4,124	17,342	29,288	1,462	8,493	1,793	41,036
May	63,580	6,552	70,132	11,325	2,782	14,107	13,833	773	4,194	1,140	19,940
June	84,261	8,774	93,035	15,344	2,493	17,837	17,273	1,370	4,701	2,303	25,647
July	73,032	6,470	79,502	15,484	1,804	17,288	13,638	759	4,454	2,983	21,834
August	79,961	7,651	87,612	14,489	1,852	16,341	11,423	717	4,047	2,267	18,454
September	108,622	13,506	122,128	22,673	3,084	25,757	16,863	796	3,973	2,290	23,922
October	84,154	23,060	107,214	17,467	7,516	24,983	35,276	1,587	25,507	5,775	68,145
November	97,659	74,689	172,348	27,133	33,149	60,282	54,303	1,526	55,169	4,682	115,680
December	102,841	43,384	146,225	22,893	14,971	37,864	23,870	907	16,676	3,188	44,641
1964 Total	967,878	219,156	1,187,034	193,396	85,972	279,368	273,717	13,787	150,732	33,772	472,008

[a]Compiled from Origin of Livestock Marketed, Monthly Reports, Volume 34, 1964, Nos. 1-12.

[b]Data obtained from Brand Inspector's Office.

TABLE 12

CONDUCT POLICIES OF AUCTION MARKETS,
1962

Size	Farmer[a] contacts	Advertising policies: Frequency[b] Press	Radio	TV	Nature[c]	Transportation[d] assistance
		Small markets				
00.5	F	W	S	N	NO	NO
01.7	G	W	W	N	NO	T
02.9	F	S	S	N	BO	A
03.0	G	W	W	N	NO	T
03.2	F	W	W	S	B	T
03.6	N	S	S	N	NO	N
04.0	G	W	S	N	P	A
04.1	G	W	S	N	P	A
04.3	G	W	S	N	NO	T
04.7	F	S	N	N	NO	T
04.8	F	W	S	N	P	T
05.9	F	W	W	W	B	T
06.1	-	S	N	N	NO	N
06.4	F	S	W	W	B	A
06.6	N	W	W	N	B	T
06.9	F	W	W	W	NO	T
07.2	F	W	S	N	B	A
08.3	F	W	W	S	B	N
08.8	G	W	W	S	N	N
12.4	-	W	W	N	NO	T
12.8	F	W	W	W	B	A
12.9	-	W	W	N	P	A
		Large markets				
21.2	G	W	S	N	B	T
22.9	F	W	W	W	-	T
23.5	F	W	W	S	B	T
23.7	F	S	W	N	B	A
28.5	G	S	W	N	B	A
35.0	F	W	W	S	B	A
36.2	F	W	W	W	B	T
43.3	F	W	W	N	P	T
48.2	N	N	W	W	NO	A
48.4	G	W	W	W	B	T
100.0	F	W	W	S	B	A

[a]Mode of farmer contacts: Prices Guaranteed, Cattle Viewed by Operator at Farm.

[b]Frequency of use of advertising media: Weekly, Seldom, Never.

[c]Information released: NOne, Prices, Numbers, Both.

[d]Auction owned Truck or gave Assistance.

TABLE 13

MARKETING COSTS AT ALBERTA STOCKYARDS, CALGARY[a]

	Cattle (over 400 lbs.)		Calves (under 400 lbs.)		Hogs		Sheep	
	Yardage	Commission[b]	Yardage	Commission	Yardage	Commission	Yardage	Commission
1945	.35	.75	.20	.25	.08	.20	.07	.15
1955	.85	1.50	.45	.70	.15	.35	.12	.35
1965	1.10	1.45	.55	1.00	.20	.35	.12	.35

[a]Private communication from C. Kennedy, Calgary, Alberta, September 13, 1965.

[b]These are variations in commission charges based on lot volume, but the figures shown are a sound yardstock.

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